

WINDS.

Prevailing Winds.—The prevailing winds for the month are shown by the arrows on chart No. II. They have been south and southeast in the Gulf States, southerly from North Carolina to Massachusetts, southwest over the Lake region, Ohio valley and Missouri, northwest in Minnesota, Dakota and Nebraska.

Total Movement of the Air.—At the Signal Service stations the largest monthly movements are as follows: Pike's Peak, 13.021; Cape Lookout, 11.360; Dodge City, 11.333; Breckenridge, 10.769; Cape Hatteras, 9.512; Cape May, 9.276. The smallest total movements are: Salt Lake City, 3.570; Springfield, 3.567; Montgomery, 3.404; Morgantown, 3.380; Wytheville, 3.263; Albany, 3.219; Augusta, 3.105; Nashville, 2.935; Vicksburg, 2.906; Lynchburg, 2.367. The voluntary observer at Atlanta, Ga., reports 3.470.

Highest Winds.—Among the highest wind velocities reported at the Signal Service stations are the following: Yankton, 18th, NW., 40; Indianola, 18th, SE., 40; Long Branch, 27th, S., 40; Barnegat, 21st, S., 40; Escanaba, 17th, S., 40; Punta Rasa, —, E., 40; Salt Lake City, —, NE., 40; Charleston, 12th, SE., 41; Dodge City, 17th, SE., 41; Smithville, 17th, SW., 41; Breckenridge, —, N., 46; Denver, 3d, S., 48; Grand Haven, 26th, W., 48; Knoxville, 25th, SW., 48; North Platte, 23rd, N., 48; Evanston, 23d, SW., 48; Malone, 19th, SW., 48; Louisville, 23d, S., 52; Davenport, 6th, SW., 60; Mt. Washington, 18th and 22nd, and 24th, 26th and 28th, NW., 60; Pike's Peak, 6th, N., 66. A severe gale was reported off the Georgia coast on the 14th.

High Winds—generally attending hail-storms or tornadoes, are reported from volunteer stations, as follows: 3rd, Starkey, N. Y., destructive wind-storm; 6th, Corning, Mo., strong S. wind, Fort Sully, Dak., gale for 10 minutes, Davenport, Iowa, gale for 3 minutes; De Soto, Neb., heavy wind; Coalville, Utah, high wind; 8th, Starkey, N. Y.; 9th, Madison Barracks, N. Y., high wind; 11th, Ephrata, Pa., destructive wind; 18th, Kenton, Ohio, severe wind-storm; 18th, Blooming-grove, Penn.; 20th, Olive Furnace, Ohio, severe wind; 23rd, Milledgeville, Ky., violent wind, Alpena, gale for 15 minutes; 30th, Ellinwood, Kan., high wind.

Tornadoes—on the 7th and the 15th, tornadoes occurred near Dodge City, the former was quite severe; 23rd, Paris, Ky.; 24th, at Portage, Penn.; on the 25th, at 3:45 p. m., a tornado passed just east of Lenoir, N. C., where several houses were blown down; the storm passed from N.W. to S.E. On the 25th, about 4 p. m., a tornado or waterspout passed through Kingsbury, Hartford and Hebron, N. Y.; the width of the storm-track was about 200 yards, its duration at any point was 17 or 18 minutes—heavy hail-stones fell, of which 15 per cent. were one inch in diameter. At the same time with the preceding storm, a more violent one passed in nearly the same direction, 40 or 50 miles to the northward, passing into Vermont near Rutland. On the 26th, near Pueblo and Hard Scrabble cañon, Col., between 3 and 4 P. M., a very severe storm is reported, having a track about two miles wide; hail-stones, to the depth of 18 inches, were lying on the ground next day; it is noted that clouds had been collecting for two days previously, and that shortly before the storm they were seen to be rising from the neighborhood of Pike's Peak in huge black masses.

VERIFICATIONS.

Cautionary Signals.—Twenty-four Cautionary Signals have been displayed at the United States Signal Service stations, of which four were ordered too late, five were not justified, and nineteen were reported justified. Eighty-five additional cases were reported, in which winds passed the limit of 25 miles per hour, but most of them were of a local and temporary nature of these winds, for which Cautionary Signals were not required.

Probabilities.—A comparison of the published tri-daily Probabilities with the weather of the succeeding 24 hours gives 82.3 as the general average per centage of verifications; the per centage for the separate districts are as follows: New England, 83.9; Middle States, 87.0; South Atlantic States, 82.3; Eastern Gulf States, 81.2; Western Gulf States, 84.6; Tennessee and Ohio valley, 80.0; Lower Lake region, 82.6; Upper Lake region, 79.7; Upper Mississippi valley, 81.0; Lower Missouri valley, 82.4. The per centages for the separate meteorological elements were—for temperature, 83.1; wind, 86.3; weather, 84.2; barometer, 76.3.

NAVIGATION.

Stage of Water.—The highest and lowest readings on the river gauges are given in the table on Chart No. III, from which it will appear that the rivers were lowest during the latter portion of the month at Shreveport and St. Paul, but were highest at that time at Leavenworth, Pittsburgh and St. Louis. The Missouri river rose above "danger line" at a few stations between Leavenworth and St. Louis. The Mississippi was above "danger line" during the first part of the month in the neighborhood of Vicksburg. Re-